REMARKS

In the Office Action, the Examiner rejected Claim 32-46, 54-56, 58-61, 67, and 68 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The Examiner indicates that a "heat source" can be understood to be used for heating a material, such as milk. The Applicant notes that Claims 1-71 are cancelled by this paper, however the Applicant respectfully requests entrance of new Claims 72-95. In these new Claims, the Applicant has clarified that "heat sources" are utilized for heating materials, e.g. for elevating the temperature thereof, and "cooling sources" are utilized to remove heat, e.g. to lower the temperatures of materials.

The Examiner also rejected Claims 27, 29, 53-58, 63, 67, and 68 under 35 U.S.C. § 102(b) as being anticipated by British patent 634,434. The Applicant has carefully reviewed the British `434 reference and notes that prior art document GB 634,434 describes a device and a method by means of which milk is heated and in a container (churn) which is rotated about a horizontal axis. This known device is adapted for a large-scaled application, e.g. in dairies. The milk is directly heat treated in milk churns, which are laid down onto rollers in a sterilization chamber. By doing so the lower part of the churns is immersed into water.

With this known method and known device the milk is sterilized by contacting the churns with boiling water (page 3, lines 41 to 45), the churns are removed from the device (page 3, lines 48 to 52) and subsequently replaced onto the rollers and contacted with cold water which has been previously replaced for the hot water (page 3, lines 61 to 72).

This known device does not enable a short-term heating of the milk on account of the many time-consuming steps. Especially an abrupt cooling of the milk is not possible due to the requirement to exchange the heated water for cooling water in the heating/cooling tanks. To the contrary, the milk is sterilized for about 20 to 30 minutes (page 4, lines 10, 11), before the subsequent steps are performed.

The problem underlying the present invention, namely to heat the milk during a short time, is not solved by the known device or the known method. However, this problem is solved by the present invention by the use of a hot air source as the first heat source. Such a hot air source enables a short-term heating of the milk film, whereby after switching off the hot air

source an abrupt cooling of the milk is possible that can, if applicable, accelerated by the immersion of the container into a cool waterbath.

The device and method according to prior art document GB 634,434 does not provide any hot air source. The provision of such a hot air source is also not obvious for a skilled person, since even the problem of the long heat treatment of the milk and the denaturation of the milk components resulting therefrom, has not been realized by the authors of the '434 reference. To the contrary, the authors of that prior art document are of the opinion that the provided method and device enables a fast heat exchange (c.f. page 3, line 62).

Furthermore, the known device and method does not produce a thin milk film on the inner wall of the churn as in the Applicants' invention as claimed by this paper. The filling quantity of milk as well as the geometrical form of the milk churn merely enable a movement of the milk, however not the formation of a thin milk film. The '434 document explicitly states that "The speed of rotation of the churn is such that liquid mass contained in it does not turn with it." (c.f. Col. 3, lines 101-103).

Thus, the Applicant believes that the GB '434 document does not anticipate "A method for treating milk contained in a container having an inner wall, comprising the steps of: setting a container holding milk in motion such that a milk film forms on an inner wall of the container, short-term heating the milk at least whilst the container is in motion, wherein the container with milk is exposed for heating to a first heat source comprising a hot air source which is set at a first temperature, for a first period of time and then to a second heat source which is at a second temperature, for a second period of time, and exposing the container to a cooling source which is set at a third temperature below both the first and second temperatures, for a third period of time." (New Claim 72)

The Applicant also does not believe that the GB '434 reference anticipates "A device for treating milk contained in a container, comprising: at least one heat source for heating a container holding milk wherein the heat source comprises an airbath, a device for setting the container in motion and exposing the container in motion to the heat source for a defined period of time, and a cooling source for cooling the milk." Thus, the Applicants believes that new Claims 72 and 86 as well as the claims depending therefrom are patentable under the requirements of 35 USC 102(b) over the GB '434 reference.

The Examiner also rejected Claim28 under 35 USC 103(a) as being unpatentable under the GB '434 reference in further view of Forsum et al. The Applicants note that Forsum et al. describes a study about the protein quality of defatted human milk and commercially available nutrient solutions. However, the Applicants note that Forsum et al. does not teach or suggest the Applicants' invention as claimed by this paper either independently or when combined with the teachings of GB '434.

The Examiner also rejected Claims 30-49, 59-62, and 64-66 under 35 USC 103(a) as being obvious design modifications of the teachings of GB '434. However, as discussed above, the Applicants do not believe that the GB '434 reference teaches the claimed integers of the base Claims 72 and 86. The Applicants further believe that the claims depending therefrom properly further limit the claimed inventions and that claims 72-95 are patentable under the requirements of 35 USC 103(a) over the GB '434 reference and obvious modifications thereof.

SUMMARY

From the foregoing, the Applicant believes that the subject application is now in a condition ready for allowance and respectfully requests prompt issuance of a Notice of Allowability. The Applicant believes that this paper is fully responsive to the objections and/or rejections made by the Examiner in the Office Action. However, should there remain any further impediments to the allowance of this application that might be resolved by a telephone conference and/or an Examiner's Amendment, the Examiner is respectfully requested to contact the Applicant's undersigned representative at the below-indicated telephone number.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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